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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/595,469

11/28/2006

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60474

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04/04/2011

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EXAMINER

THOMAS, BRANDI N

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/595,469	<b>Applicant(s)</b> KWAN ET AL.	
	<b>Examiner</b> BRANDI N. THOMAS	<b>Art Unit</b> 2873	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2011.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 20-24 and 26-36 is/are pending in the application.
- 4a) Of the above claim(s) 20-22 and 33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23,24,26-32 and 34-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/3/10</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### **Information Disclosure Statement**

1. Acknowledgement is made of receipt of Information Disclosure Statement(s) (PTO-1449) filed 11/3/10. An initialed copy is attached to this Office Action.

### **Claim Rejections - 35 USC § 103**

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 23, 24, 28, 29, 35, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eurlings (6671035) in view of Oliver et al (6425559).

Regarding claim 23, Eurlings discloses, in figure 2, an apparatus, comprising: an interchange mechanism (12) and an optical assembly (illuminator) (fig. 2), said optical assembly (illuminator) having a housing and having a plurality of optical elements (lenses) arranged along a beam path to form a projection objective or an illuminating system (illuminator) (col. 9, lines 6-10), said plurality of optical elements (lenses) including at least one selected optical element (10) and a plurality of remaining optical elements (lenses), said selected optical element (10) being selectable from among a plurality of selectable optical elements (lenses) available from said interchange mechanism (12) (col. 9, lines 7-9), said interchange mechanism (12, exchanger) being operable to insert said selected optical element (10) into the beam path (col. 9, lines 10-12), and to remove said selected optical element (10) from the beam path (col. 9, lines 10-12),

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said selected optical element (10) being inserted into an operating position in the beam path, said operating position being a position at which said selected optical element is separate from said interchange mechanism (12) (col. 9, lines 10-16) but does not specifically disclose at least one optical element being substantially dynamically decoupled from the remaining ones of said plurality of optical elements of the optical assembly. Oliver et al. discloses at least one optical element being substantially dynamically decoupled from the remaining ones of said plurality of optical elements of the optical assembly (ABS). Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to combine the device of Eurlings et al. with the optical elements of Oliver et al. for the purpose of separating the vibration between the chamber source to the optical element (ABS).

Regarding claim 24, Eurlings discloses, in figure 2, an apparatus, wherein said interchange mechanism is located outside said housing and wherein said housing includes an opening adapted to the dimensions of said plurality of selectable optical elements such that said at least one selected optical element can be inserted into the beam path by way of said opening and removed from the beam path by way of said opening (col. 9, lines 10-16).

Regarding claim 28, Eurlings discloses, in figure 2, an apparatus, further comprising a holding device (carousel or rotatable disc) which serves as a stop and/or for fixing said at least one selected optical element (10) in the beam path (col. 9, lines 10-16).

Regarding claim 29, Eurlings discloses, in figure 2, an apparatus but does not specifically disclose wherein said holding device is connected to one of said remaining ones of said plurality of optical elements. Huttner et al. discloses wherein said holding device is connected to one of

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said remaining ones of said plurality of optical elements (disc holds the other optical elements) (col. 9, lines 10-16).

Regarding claim 35, Eurlings discloses, in figure 2, an apparatus, wherein said beam path comprises a beam path for EUV light (col. 7, lines 59 and 62-63).

Regarding claim 36, Eurlings discloses, in figure 2, a projection exposure machine for semiconductor microlithography, said projection exposure machine, comprising: an apparatus wherein, said beam path is a beam path for EUV light (col. 7, lines 62-63).

4. Claims 26, 27, and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eurlings (6671035) in view of Oliver et al (6425559) as applied to claim 23 above, and further in view of Huttner et al. (3953738).

Regarding claim 26, Eurlings discloses, in figure 2, an apparatus but does not specifically disclose wherein said interchange mechanism comprises a lifting device for lifting said at least one selected optical element, said at least one selected optical element being positioned and/or fixed in the beam path via said lifting device. Huttner et al. discloses wherein said interchange mechanism comprises a lifting device (32) for lifting said at least one selected optical element, said at least one selected optical element (prism) being positioned and/or fixed in the beam path via said lifting device (32) (col. 4, lines 15-19). Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to combine the device of Eurlings with the lifting device of Huttner et al. for the purpose of moving the optical element (col. 4, lines 15-19).

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Regarding claim 27, Eurlings discloses, in figure 2, an apparatus but does not specifically disclose wherein said lifting device is dynamically decoupled from said optical assembly and is connected to said structure which is substantially dynamically decoupled from said optical assembly. Huttner et al. discloses wherein said lifting device is dynamically decoupled from said optical assembly and is connected to said structure which is substantially dynamically decoupled from said optical assembly (col. 4, lines 15-19). Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to combine the device of Eurlings with the lifting device of Huttner et al. for the purpose of moving the optical element (col. 4, lines 15-19).

Regarding claim 30, Eurlings discloses, in figure 2, an apparatus but does not specifically disclose wherein said at least one selected optical element is fixed in the beam path by said holding device using a magnetic force. Huttner et al. discloses wherein said at least one selected optical element is fixed in the beam path by said holding device using a magnetic force (col. 4, lines 15-19). Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to combine the device of Eurlings with the magnetic force of Huttner et al. for the purpose of holding the optical element in place (col. 4, lines 15-19).

Regarding claim 31, Eurlings discloses, in figure 2, an apparatus but does not specifically disclose wherein spring elements are provided between said lifting device and said at least one selected optical element. Huttner et al. discloses wherein spring elements are provided between said lifting device (32) and said at least one selected optical element (prism) (col. 4, lines 15-19). Therefore it would have been obvious to one having ordinary skill in the art at the time of the

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invention to combine the device of Eurlings with the spring of Huttner et al. for the purpose of maneuvering the plurality of optical elements (col. 4, lines 15-19).

Regarding claim 32, Eurlings discloses, in figure 2, an apparatus, wherein at least one of: (j) said interchange mechanism and (ii) said lifting device, are located outside said housing of said optical assembly (figure 2).

5. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eurlings (6671035) in view of Oliver et al (6425559) as applied to claim 23 above, and further in view of Ihms (4133602).

Regarding claim 34, Eurlings discloses, in figure 2, an apparatus but does not specifically disclose wherein said at least one selected optical element comprises a revolving disc diaphragm. Ihms discloses wherein said at least one selected optical element comprises a revolving disc diaphragm (col. 6, lines 56-58). Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to combine the device of Eurlings with the diaphragm of Ihms for the purpose of selectively interposing the prism in the optical path (col. 6, lines 56-58).

### **Response to Arguments**

6. Applicant's arguments with respect to claims 23, 24, 26-32 and 34-36 have been considered but are moot in view of the new ground(s) of rejection.

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### **Conclusion**

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **BRANDI N. THOMAS** whose telephone number is (571)272-2341. The examiner can normally be reached on Monday - Thursday from 6-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571-272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brandi N Thomas/  
Examiner  
Art Unit 2873

BNT

/Ricky L. Mack/  
Supervisory Patent Examiner, Art Unit 2873